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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/462,067	01/05/2000	MASAKAZU FURUKAWA	P18520	4630

7055 7590 01/10/2003

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EXAMINER
PAIK, SANG YEOP

ART UNIT	PAPER NUMBER
3742	

DATE MAILED: 01/10/2003

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 19

Application Number: 09/462,067
Filing Date: January 05, 2000
Appellant(s): FURUKAWA ET AL.

Bruce H. Berstein
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed October 21, 2002.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existance of any related appeals and interferences.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 1, 3-7, 25-28 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

5,151,871	Matsumura	9-1992

6,133,557	Kawanabe et al	10-2000
6,080,970	Yoshida et al	6-2000
4,804,823	Okuda et al	2-1989
5,643,483	Kubota et al	7-1997
5,331,134	Kimura	7-1994

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 7 and 25 are rejected under 35 U.S.C. sec. 112, second paragraph. This rejection is set forth in prior Office Action, Paper No. 12.

Claims 1, 3-7 and 25-28 are rejected under 35 U.S.C. 103(a). This rejection is set forth in prior Office Action, Paper No. 12.

(11) Response to Argument

Applicant argues the recited term "aspect ratio" is not indefinite in light of the specification which states that it is width of the heating body/thickness of the heating body. In other prior art, such term "aspect ratio" is used as to define a ratio of length/width as well as length/thickness or other sizes. When such term is commonly used for other uses, a clearer recitation is needed in the body of the claim to clearly define the scope of the invention. If the term is used in ways that are different than the applicant's, the applicants need to make clear the boundaries of the subject matter for which protection is sought. Applicant states that the examiner was requested to advise Appellants as to whether the Examiner prefers to include the definition in the claim. This request was made in the amendment after final which was not entered at the time of filing. Also it is noted that it is the applicant who has deleted such

definition in claim 7 after the first office action, and only after such deletion, the 112, second paragraph, rejection was made in the final office action.

Applicant argues that the teachings of the secondary references, Kawanabe and Yoshida, are not applicable to the primary reference, Matsumura, because it is shown that the heating body of Kawanabe and Yoshida is embedded in the ceramic substrate. Kawanabe and Yoshida were not applied to teach the heating arrangement structure but the ceramic substrate material and the shape. As stated in the office action, both Kawanabe and Yoshida teach the advantages of having the ceramic substrate with aluminum nitride because of its thermal conductivity and resistance to corrosion and heat resistance. Such is proper motivation to allow one of ordinary skill in the art to modify the alumina ceramic substrate in Matsumura with the alternative material such as aluminum nitride as the devices shown are used to provide effective heat to heat a semiconductor wafer. Furthermore, Yoshida also shows alumina and aluminum nitride as the materials that are usable alternatively. The applicant's argument of the difference in the heating body arrangements in the ceramic substrate would not deter or teach way one of ordinary skill in the art from using such ceramic materials. Applicant refers to the Table 1 and argues for the unexpected results. But, the differences in the results are due to the different sizes and material of the heating body and not the arrangement of the heating body with respect to the ceramic substrate. The applicant's arguments are thus deemed unpersuasive.

The applicant's declaration is focused on the heating body arrangement. However, it is noted again that Kawanabe and Yoshida were not applied to teach the heating body arrangement but rather the type of ceramic materials that would be suitable for the ceramic substrate of

Matsumura. The obviousness to combine the references is provided by the advantages of using the aluminum nitride ceramic material as taught by Kawanabe and Yoshida.

With respect to claim 3, Kawanabe et al also shows the ceramic substrate with the heating body made of metal particles sintered or fired to integrally form the heater. Such is method well known in the art to make a ceramic heater. With respect to claim 26, the claimed aluminum nitride is taught by Kawanabe and Yoshida. With respect to claim 27, the claimed thickness of the substrate and heating body is shown by Matsumura.

With respect to Okuda, the applicant argues that teachings of Okuda are not applicable to the applied prior art because the substrate is not in the disc shape. The teachings of Okuda are for meeting the claimed heating body having the claimed metal particles and metal oxides and not for the disc shaped ceramic heater. The shape of the ceramic heater does not teach away one of ordinary skill in the art to make use of the advantages of the ceramic heater with its disclosed heating body. The applicant argues that the rejection does not point where Okuda teaches or suggests improving the adhesion of the heating body to the ceramic substrate. It is clearly shown in column 6, starting from line 60. Claim 29 is met by Okuda, and claim 30 is met by Kawanabe.

With respect to Kubota or Kimura, the applicant admits that these references show the claimed aspect ratio that is within the claimed range, but argues there is no teaching or suggestion of importance of these ratios to combine. The claimed ratio indicates the desired electrical resistance from which a desired heating can be achieved. Examples of using such ratio are provided by Kubota and Kimura to show such ratio has been used and would have been obvious. Kubota and Kimura also further show the heating body having the ratio within the claimed range with the ceramic substrate having the thickness that is also within the claimed

range that provides uniform temperature distribution across the heating plate. Such showings are proper motivation and suggestion to combine with the other references.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Sang Y Paik
Primary Examiner
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syp
January 8, 2003

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